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(54) Title: PLANTS WITH REDUCED ACTIVITY OF THE STARCH PHOSPHORYLATING ENZYME PHOSPHOGLUCAN, WATER DIKINASE

(57) Abstract: The present invention relates to plant cells and plants, which are genetically modified, wherein the genetic modification leads to the reduction of the activity of a starch phosphorylating OKI protein in comparison with corresponding wild type plant cells or wild type plants that have not been genetically modified. The OKI protein acts as a phosphoglucan, water dikinase (PWD) which predominately phosphorylates the C3 position. Genetically modified plants in which the expression of PWD is reduced show a starch excess phenotype. Furthermore, the present invention relates to means and methods for the manufacture of such plant cells and plants. Plant cells and plants of this type synthesise a modified starch. The present invention therefore also relates to the starch synthesised by the plant cells and plants according to the invention, methods for the manufacture of this starch, and the manufacture of starch derivatives of this modified starch, as well as flours containing starches according to the invention. Furthermore, the present invention relates to nucleic acid molecules, which are suitable for manufacturing plants according to the invention.

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